

MEETING MINUTES

LIGNITE RESEARCH COUNCIL

April 11, 2002
Doublewood Inn, Bismarck, ND

MEMBERS (or their authorized alternates) PRESENT:

John Bluemle, North Dakota Geological Survey
Randy Christmann, State Senator
Layton Freborg, State Senator
Carlyle Hillstrom, North Dakota Farm Bureau
Mike Hummel, BNI Coal, Ltd.
Mike Jones, Energy & Environmental Research Center
Doug Kane, MDU Resources Group
Luther Kvernen, Minnkota Power Cooperative
Vernon Laning, Basin Electric Power Cooperative
Al Lukes, Dakota Gasification Company
Gary L. Nelson, Ironworkers Local 793
John O'Laughlin, Dakota Westmoreland Corporation
John Pelerine, Great River Energy
Dean Peterson, The North American Coal Corporation
Wilfred Volesky, Coal Conversion Counties Association
Susan Wefald, North Dakota Public Service Commission

OTHERS PRESENT:

David Allard, Lignite Energy Council
Gene Baker, Dakota Gasification Company
Jeff Burgess, Lignite Vision 21 Program
Clyde Bush, Basin Electric Power Cooperative
Jim Deutsch, North Dakota Public Service Commission
Linda Donlin, MDU Resources Group
Karlene Fine, North Dakota Industrial Commission
Vicki Gilmore, Lignite Energy Council
Dennis James, The Falkirk Mining Company
Carmen Miller, North Dakota Attorney General's Office
Harvey Ness, Lignite Research Council
Clifford R. Porter, Lignite Energy Council
Tony Rude, Lignite Vision 21 Program
Dave Simpson, Westmoreland Mining LLC/Dakota Westmoreland Corporation
Daniel Stepan, Energy & Environmental Research Center
Fred Stern, Dakota Gasification Company
John Weeda, Great River Energy
Richard Weinstein, The Falkirk Mining Company

Lignite Research Council (LRC) vice-chairman Doug Kane called the LRC meeting to order on April 11, 2002 at Doublewood Inn, Bismarck, North Dakota.

Financial Summary as of April 2, 2002

Harvey Ness, technical advisor for the North Dakota Industrial Commission (NDIC) and the LRC, summarized the North Dakota Lignite Research, Development and Marketing Program (Program) financial information that is available on the NDIC web site. As of April 2, 2002, available funding balances from the Lignite Research Fund (LRF) for the 2001-2003 biennium were as follows: \$301,050 for administration of the Program; \$100,000 in non-matching funds for lignite marketing feasibility studies, \$880,256 in uncommitted funds for small research projects, \$4,049,882 for demonstration projects, and \$155,000 for the joint program with the U. S. Department of Energy, Electric Power Research Institute and other entities.

Approval of October 30, 2001 LRC Minutes

Kane asked for a motion to approve the minutes of the October 30, 2001 LRC meeting. Vernon Laning so moved; seconded by Susan Wefald. Motion carried.

Lignite Research, Development and Marketing Program Updates

Ness said that 16 small research projects are currently active. Ten projects were committed prior to the 2001-2003 biennium, and four projects were approved during the 2001-2003 biennium. Funding from the LRF for the small research projects is \$2,529,147. The industry participants brought the total project costs to \$11,974,373. The funding ratio is \$1 in state dollars for \$4.7 dollars of total project costs.

For the joint program, Ness said that there is one project (FY01-XXXVII-103) that received a \$95,000 commitment from the LRF. He said the project is now complete. Total project cost is \$190,000, which is a funding ratio of \$1 in state dollars to \$2 in total project costs. This was committed prior to the 2001-2003 biennium. The remaining \$155,000 in the joint program area is uncommitted.

Al Lukes gave an update about small research project FY97-XXVII-75 ("Development of Concrete Admixtures from DGC's Catechols"), which was awarded funding on March 24, 1997.

Ness said that in the lignite marketing feasibility studies (LMFS) area, there is currently one Lignite Vision 21 (LV21)-related project from 2001-2003 biennium funds. This is project LMFS-02-35, titled "Lignite Vision 21 Program - Phase III: Program Management and Development of Lignite Vision 21 Projects". Through this project, the Lignite Energy Council will help manage the LV21 Program contracts and assist LV21 participants to address issues they are facing. The management team consists of the former NDIC technical advisor Clifford Porter, whom Ness has replaced; Tony Rude, Lignite Vision 21 Program manager of transmission services; and Jeff Burgess, Lignite Vision 21 Program manager of environmental services.

Ness said that there are currently four active demonstration projects, with a total funding of \$21,973,250 from the LRF. The projects are worth \$1,500 million in total project costs. The funding ratio of total project dollars to LRF dollars is 67:1 if the projects go forward. The one non-LV21 project's funds were committed prior to the 2001-2003 biennium. This is project FY98-XXVIII-80 ("Construction of a Forced Oxidation Plant for Gypsum Production"), for the purpose of constructing a gypsum plant at Great River Energy's Coal Creek Station. The three LV21-related projects are: Great River Energy's Lignite Vision 21 project, with a \$10,000,000 grant from the LRF, and a total project cost of \$730,897,000; Montana-Dakota Utilities Company/Westmoreland Coal Company's Lignite Vision 21 project for Gascoyne, ND, with a \$10,000,000 grant from the LRF, and a total project cost of \$740,000,000; and Great Northern Power Development's Lignite Vision 21 feasibility project, with a \$673,250 grant from the LRF, and total project costs of \$1,346,500.

John Weeda gave an update about demonstration project FY98-XXVIII-80 ("Construction of a Forced Oxidation Plant for Gypsum Production"), which was awarded funding on June 11, 1999.

Ness said that for the demonstration projects area, there is an obligation of \$2,126,064 for the 1995 A Program Series Bonds that will mature on November 15, 2005. The joint program has a carryover of \$155,000. There is \$1,114,700 in committed funds for Great River Energy's demonstration project FY98-XXVIII-80. For the Lignite Vision 21 projects, \$5,930,460 in obligated Program funds is scheduled to be paid to the participants in the 2001-2003 biennium. \$4,049,882 is available for demonstration projects for the 2001-2003 biennium.

Jeff Burgess gave an update about current environmental strategies and activities of the LV21 Program, which has three applicants under contract with the NDIC: Great River Energy (contract approved April 19, 2001); MDU/Westmoreland (contract approved May 2, 2001), and Great Northern Power Development (contract approved September 7, 2002). Four major environmental issues for the LV21 Program are prevention of significant deterioration (PSD), visibility, regional haze, and mercury. Tony Rude gave an update on LV21 Program transmission and marketing strategies and activities. There is a joint transmission committee that includes representatives from all three grant applicants. ABB has been hired to conduct a study to look at ways to increase the export of transmission out of North Dakota by 750 megawatts. Rude said that to meet the transmission objective, ABB came up with alternatives including new DC, new AC, upgrading of DC, upgrading of AC, and a combination of transmission lines. ABB's report will be used by the three grant recipients to help them estimate what transmission costs will be for their projects.

Grant Round XLV Grant Applications

Ness said that there is \$880,256 in available funds for small research projects. If both of the Grant Round XLV applications are approved, there will be \$660,256 remaining for small research projects this biennium.

**LRC-XLV-A - "Anaerobic Treatment of Dakota Gasification Company Stripped Gas Liquor";
Submitted by: Energy & Environmental Research Center; Project Manager: Daniel J. Stepan;
Request for: \$130,000; Total Project Costs: \$380,000; Time Frame: 18 Months.**

Ness said that project LRC-XLV-A was submitted by the Energy & Environmental Research Center in Grant Round XLIV. After peer review, it was withdrawn, then revised and re-submitted in Grant Round XLV. The project will develop an anaerobic biological process to reduce organic impurities resulting in a reduction of microbial growth and fouling and of air emissions associated with cooling towers. Anaerobic oxygen-free digestions are proposed using batch and continuous reactors to evaluate efficacy of degradation.

Ness summarized the ratings and comments of the three technical peer reviewers for proposal LRC-XLV-A. They gave the proposal an average weighted score of 159.3 out of 250 points. One reviewer recommended that the project be funded; two reviewers recommended funding to be considered.

As technical advisor to the NDIC and LRC, Ness recommended the project be funded at a level not to exceed \$130,000, and subject to completion of two contingencies: 1) The U. S. Department of Energy funds are committed to the proposed project; and 2) A detailed project management plan, including cost identified by task, is submitted and acceptable to the NDIC Technical Advisor.

Ness said that a positive result of the project would be an increase in the effectiveness of SGL treatment resulting in a reduction of emission odors and drift, and the potential for an overall increase in plant efficiency.

Ness said that the Energy & Environmental Research Center and Dakota Gasification Company are conflict-of-interest parties for proposal LRC-XLV-A.

The proposal's project manager, Daniel Stepan of the Energy & Environmental Research Center, gave a slide presentation in support of the proposal. Fred Stern and Gene Baker, both of Dakota Gasification Company, spoke in support of the proposal.

LRC-XLV-B – “Mercury Control Technologies for Electric Utilities Burning Lignite Coals”; Submitted by: Energy & Environmental Research Center; Project Manager: John Pavlish; Request for: \$150,000; Total Project Costs: \$833,000; Time Frame for Phase I: 13 Months; Total Time Frame: 30-36 Months.

Ness said that Energy & Environmental Research Center is proposing to develop a two-phase, cost-effective elemental mercury capture process for utilities burning lignite coals. The current funding request of \$150,000 is for Phase I. The approach will be to identify mercury interactions with flue gas constituents. Based on an understanding of these interactions, a group of sorbents would be selected and tested for the capture efficiency of elemental mercury. If pilot-scale tests are promising, a Phase II program would be proposed that would test the sorbents at a lignite-fired power plant.

Ness summarized the ratings and comments of the four technical peer reviewers for proposal LRC-XLV-B. They gave the proposal an average weighted score of 190.3 out of 250 points. All reviewers recommended that the project be funded.

As technical advisor to the LRC and NDIC, Ness recommended the proposal be funded at a level not to exceed \$150,000 and subject to completing the following contingencies: 1) The required level of matching industrial funds are secured; 2) A detailed project management plan, including cost identified by task, is submitted and acceptable to the NDIC Technical Advisor; and 3) Agree to define a long-term strategy that addresses mercury emissions and controls for lignite-fired power plants and present to the LRC at the November 26, 2002 meeting.

Ness said that the conflict-of-interest parties for this proposal are Energy & Environmental Research Center, Basin Electric Power Cooperative, Minnkota Power Cooperative, Otter Tail Power Company, Minnesota Power, and the U. S. Department of Energy.

Mike Jones of the Energy & Environmental Research Center gave a slide presentation in support of the proposal. Luther Kvernen of Minnkota Power Cooperative spoke in support of the proposal.

Ballot results: LRC- XLV-A and LRC-XLV-B

Kane announced that the LRC voted as follows to recommend that the Industrial Commission approve funding of the two Grant Round XLV proposals:

LRC-XLV-A (“Anaerobic Treatment of Dakota Gasification Company Stripped Gas Liquor”; Submitted by: Energy & Environmental Research Center; Project Manager: Daniel J. Stepan; Request for: \$130,000; Total Project Costs: \$380,000; Time Frame: 18 Months):

Fund: 15 votes. (Funding subject to the completion of the following contingencies: 1) The U. S. Department of Energy funds are committed to the proposed project; and 2) A detailed project management plan, including cost identified by task, is submitted and acceptable to the NDIC Technical Advisor.)

Do Not Fund: 0 votes.

Abstention: 1 vote.

LRC-XLV-B (“Mercury Control Technologies for Electric Utilities Burning Lignite Coals”; Submitted by: Energy & Environmental Research Center; Project Manager: John Pavlish; Request for: \$150,000; Total Project Costs: \$833,000; Time Frame for Phase I: 13 Months; Total Time Frame: 30-36 Months):

Fund: 16 votes. (Funding subject to the completion of the following contingencies: 1) The required level of matching industrial funds are secured; 2) A detailed project management plan, including cost identified by task, is submitted and acceptable to the NDIC Technical Advisor; and 3) Agree to define a long-term strategy that addresses mercury emissions and controls for lignite-fired power plants and present to the LRC at the November 26, 2002 meeting.)

Do Not Fund: 0 votes.

The LRC's recommendations for the two Grant Round XLV proposals will be considered by the NDIC at its meeting on April 24, 2002.

2002: Grant Application Deadline Dates; LRC Meetings

Kane said that October 1st is the remaining grant application deadline date for 2002.

Kane said that as of now, it is uncertain whether or not there will be a Lignite Research Council meeting on May 30, 2002, as was previously scheduled.

The next regularly scheduled meeting of the Lignite Research Council will be at 12:00 p.m. November 26, 2002, at Doublewood Inn, Bismarck.

Adjournment

There being no further business, Kane asked for a motion to adjourn the meeting. Al Lukes so moved; seconded by Luther Kvernen. Motion carried.

Vicki Gilmore, Recording Secretary
